

# Commentary on non-compliant results for 2014

1. National Surveillance Scheme
2. Meat Inspection Scheme
3. Pigs Testing Scheme
4. Residues in Sheep & Cattle

## 1. NATIONAL SURVEILLANCE SCHEME

Samples collected under the UK National Surveillance Scheme may be taken at abattoirs or on-farm, and provide retrospective surveillance data. As a consequence, carcasses are not detained pending the laboratory result.

### a) Prohibited and unauthorised substances

1. **Phenylbutazone.** This non-steroidal anti-inflammatory painkiller is licensed only to be given to horses that are not intended to be slaughtered for human consumption. It is not licensed for use in cattle. Residues of phenylbutazone were detected in blood taken from a cull cow. There were horses on the farm, and the owner stated one had been treated for lameness with phenylbutazone. Follow up samples were collected at slaughter during meat inspection and a further non-compliant animal was detected. The entire herd was then sampled at a farm follow-up investigation. A further three animals were detected containing the drug. All other animals were compliant. It is believed that cross contamination from the horse being treated with phenylbutazone to some of the cattle on the farm. Work at AFBI has shown that cross contamination can easily occur.

2. **Semicarbazide.** This is the marker residue used to detect illegal use of the nitrofurans drug, nitrofurazone. It can also have other origins for example during the manufacture of gaskets for the sealing of glass jars. Other sources may also occur. Follow up investigation of this sample did not reveal any evidence of nitrofurazone abuse. Follow up samples were collected and all were compliant.

3. A number of samples tested non-compliant for a range of compounds, mainly  $\alpha$ -boldenone,  $\alpha$ -nortestosterone (illegal growth-promoting hormones) and thiouracil (a thyrostat that promotes growth by increasing water retention). However, all these compounds can occur naturally because of dietary-, pregnancy- and injury related factors, etc. In all cases no evidence of misuse was uncovered and no penalties were applied.

### b) Veterinary medicines

1. **Closantel.** This is an antiparasitic drug, active against liver fluke, that is licensed for use in cattle and sheep.

Residues were detected in a bovine liver sample in excess of the Maximum Residue Limit. The animal had been treated with a pour-on formulation containing closantel. The withdrawal period for the product (28 days) had been adhered to. The animal had been slaughtered exactly at the end of its withdrawal period. Follow up samples were collected at slaughter which revealed a further twelve non compliant animals. None of the non compliant animals entered the food chain.

Residues were also detected in two ovine liver samples above the MRL. On one farm the medicine records indicated the correct withdrawal time had been observed. On the second farm medicine records were not available but the producer stated he had not treated the animal. Follow up samples from both flocks were all compliant. It is unclear the cause of these residues.

## c) Contaminants

1. **Cadmium.** Cadmium was found in the kidney of cull ewe. Cadmium is a metallic environmental contaminant that accumulates in kidney, with increasing age of the animal. In the EU, a Maximum Permitted Limit of 1.0 mg/kg has been established for this heavy metal. At an on-farm investigation, no obvious cadmium sources were identified.

## 2. MEAT INSPECTION SCHEME

Under this Scheme, the carcass is detained at sampling, and excluded from the food chain if a non-compliant result is obtained.

### a) Prohibited and unauthorised substances

1. **Phenylbutazone.** See the entry for the phenylbutazone non compliant sample from the national surveillance scheme as the non compliant case detected at meat inspection was from the same herd.

### b) Veterinary medicines

1. **Oxytetracycline.** This is an antibiotic that is licensed for use in a wide range of animal species. Residues of oxytetracycline above the Maximum Residue Limit were found in the kidneys taken from two animals. On-farm investigations showed that the main causes of in one animal was a lack of food chain information accompanying the animal that had only been on the presenter's farm for a short period of time. The cause of the residue in the second animal was unclear as the time between treatment and slaughter was almost twice the produce withdrawal period.

2. **Amoxicillin.** This is a  $\beta$ -Lactam antibiotic that is licensed for use in a wide range of animal species. Residues of amoxicillin at more than five the Maximum Residue Limit were found in the kidney taken from a bovine. While the drug was present on the farm the herd keeper was adamant he had not treated the animal.

3. **Dihydrostreptomycin.** This is an aminoglycoside antibiotic licensed for use in cattle sheep and pigs. Residues of dihydrostreptomycin above the Maximum Residue Limit were found in the kidneys of five cattle. On-farm investigations showed that the main causes of these residues included poor recording of medicine use, failure to observe the correct withdrawal period and inappropriate route of administration.

4 **Gamithromycin.** This is a macrolide antibiotic licensed for the treatment of Bovine Respiratory Disease in cattle. Residues of gamithromycin above the Maximum Residue Limit were found in the kidney of one bovine. It is unclear how this occurred as the herd keeper had never used this drug.

5 **Penicillin G.** This is a narrow spectrum  $\beta$ -Lactam antibiotic that is licensed for use in a wide range of animal species. Residues of penicillin G above the Maximum Residue Limit were found in the kidneys of two cattle and one pig. On-farm investigations showed that the main causes of these residues included: overdosing of animals, poor record keeping and failure to observe the correct withdrawal period.

6. **Nitroxynil.** This is an antiparasitic drug, active against immature and adult liver fluke. Residues of nitroxynil above the Maximum Residue Limit were found in one bovine liver sample, from a beef herd. Medicine records showed the animal had been treated with Nitroxynil but that it may have become mixed in with non treated animals.

7. **Closantel.** See the entry for the non compliant bovine sample in the national surveillance scheme. Of seventy eight animals sampled from the same herd, at meat inspection, during the investigation, twelve were non compliant.

### 3. PIGS TESTING SCHEME

At Phase 1, the carcase is not detained at sampling, but if found to contain non compliant residues, the producer is allocated to Phase 2 intensified sampling with carcase detention. Non-compliant carcases at Phase 2 are condemned. (After 3 consecutive, clear rounds of Phase 2 sampling, the producer is returned to Phase 1 sampling).

#### a) Prohibited and unauthorised substances

No testing for these substances was performed.

#### b) Veterinary medicines

1. **Sulphadiazine.** This is an antibiotic that is licensed for use in a wide range of animal species. Residues of sulphadiazine, above the MRL, were detected in the kidney of two pigs from two producers of fattening pigs. On one farm there had been an error and the pig had access to feed containing sulphadiazine the day before slaughter. On the other farm sulphadiazine was not used, however, Sulphadiazine, at low concentrations, was found in the retained feed sample. Follow up samples were all compliant.

2. **Dihydrostreptomycin.** This is an antibiotic that is licensed for use in a wide range of animal species. Residues of dihydrostreptomycin, above the Maximum Residue Limit, were detected in the kidney of three pigs. During on farm investigations it was discovered that the withdrawal period had not been observed with two of the animals, one of which had been given four times the recommended dose. The withdrawal period had been observed with the third animal but medicine records were incomplete.

3. **Chlortetracycline.** This is an antibiotic that is licensed for use in a wide range of animal species and may be incorporated into pig feed for easy treatment of groups. Residues of chlortetracycline, above the Maximum Residue Limit, were detected in the kidney of three pigs. On farm investigations revealed that most likely cause of these residues to be poor separation of medicated and unmedicated feed during delivery with both types being delivered by the same lorry. Some medicine records were also incomplete.

4. **Marbofloxacin.** This is a fluoroquinolone antibiotic that is licensed for use in a wide range of species. Residues of marbofloxacin, above the Maximum Residue Limit were detected in the kidney of a suspect pig. The investigation of the cause of this residue is pending.

### 4. RESIDUES IN SHEEP & CATTLE

Residues in Sheep & Cattle (RISC) samples are taken at abattoirs, and are designed to provide risk-based surveillance data. Carcases are not detained pending the laboratory result.

#### a) Prohibited and unauthorised substances

1. **Phenylbutazone.** This non-steroidal anti-inflammatory painkiller is licensed only to be given to horses that are not intended to be slaughtered for human consumption. It is not licensed for use in cattle. Residues of phenylbutazone and its metabolite were detected blood taken from a cull dairy cow. There were no horses on the farm. The farmer had been supplied with phenylbutazone by his private veterinary practitioner, and had been used to treat breeding bulls for lameness. The treatment had been recorded in the medicine records. The cull cow had access to remnants of the powder when it was housed along with one of the bulls on the night prior to slaughter. Milk samples were collected from individual animals and the bulk tank during the investigation and were all compliant. Partners from the veterinary practice that supplied the drug were interviewed and were upset that they had failed to meet their obligations. The practice has changed its procedures for dispensing phenylbutazone and have issued a letter to its clients highlighting the restrictions on PBZ use

## b) Veterinary medicines

1. **Dihydrostreptomycin.** This is an aminoglycoside antibiotic licensed for use in cattle sheep and pigs.

Residues of dihydrostreptomycin above the Maximum Residue Limit were found in the kidney of a sheep. The flock keeper had not treated the animal as it had only been on the farm a few days prior to slaughter. However, it was noted that there were deficiencies in both movement and medicine records on the farm.

Residues of dihydrostreptomycin above the Maximum Residue Limit were found in the kidney of a cow. While medicine records were available at the on farm investigation, there was no record of this animal having been treated with the drug. The only product contain this drug on the farm were intra-mammary tubes for mastitis. It is not clear how this residue came to be present in this animal.

2 **Florfenicol.** This is an amphenicol antibiotic licensed for use in a range of species. Residues of florfenicol above the Maximum Residue Limit were found in the kidney of a bovine. An on farm investigation found that while the withdrawal period had been observed that animal had been overdosed and the drug had not been properly administered.

3 **Gamithromycin.** This is a macrolide antibiotic licensed for the treatment of Bovine Respiratory Disease in cattle. Residues of gamithromycin above the Maximum Residue Limit were found in the kidney of one bovine. The investigation found that the correct withdrawal time had not been observed.

3. **Meloxicalm.** This is a non-steroidal anti-inflammatory drug. It is licensed for use in a range of species. It may be used in acute respiratory infections and in the treatment of mastitis in combination with antibiotics. Residues above the Maximum Residue Limit were found in the liver of a cow. The investigation found that the withdrawal time had not been observed.

4. **Nitroxynil.** This is an antiparasitic drug licensed for use in cattle & sheep, which is active against immature and adult liver fluke and some gastro-intestinal roundworms. Residues were detected in a sheep liver sample in excess of the Maximum Residue Limit. The animal had been bought in a few days before slaughter, and had been treated by the former owner.

6 **Fenbendazole/Oxfendazole.** This is an antiparasitic drug licensed for use in cattle & sheep for the treatment of mature and immature forms of gastro-intestinal roundworms, lungworms, tapeworms and nematode eggs. The investigation discovered that the collect withdrawal time had not been observed.

7. **Closantel.** This is an antiparasitic drug, active against liver fluke, that is licensed for use in cattle and sheep. Residues were detected in three bovine and fifteen ovine liver samples in excess of the respective Maximum Residue Limits. On-farm investigations revealed a range of reasons for the positive results. in several cases, the animal had been on the farm for only a few days prior to slaughter; in others poor medicine records had resulted in animals not being held for the correct period after treatment before slaughter; in another the animal had been overdosed; one bovine had been housed beside animals treated with a pour on formulation and it is believed licked the backs of treated animals.